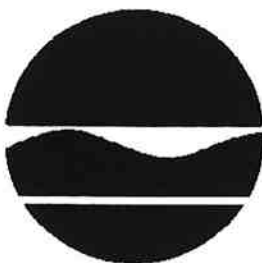


SUPERFUND STANDBY PROGRAM
New York State
Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233-7010

NIAGARA MOHAWK POWER CORPORATION
SOLVAY BRIDGE STREET (SITE ID 229) &
SYRACUSE FIRE TRAINING CENTER (SITE ID 230)

SITE SUMMARY REPORT
REVISION 1



Onondaga Lake Project
Task 5: 104(e) Review

Site No. 734030-002
Work Assignment Number D003060-9

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1.0 SITE DESCRIPTION

In general, the information referenced in this report was obtained from the 104(e) responses of the Niagara Mohawk Power Corporation (NMPC, Company ID 2012). NMPC's initial response to the joint request for information was submitted on April 4, 1995. In this correspondence, NMPC stated that additional time was needed to complete their response to the joint request for information because of the large number of potential historic and current sites owned by NMPC in the Onondaga Lake area. NMPC provided a more complete response to the joint request for information on April 28, 1995 (see TAMS' Completeness Review A dated July 31, 1995). NYSDEC and USEPA submitted a request for additional information to NMPC on January 4, 1996. NMPC provided a supplemental response dated February 9, 1996. A Completeness Review B was prepared by TAMS dated August 29, 1996. Additional material was provided by NYSDEC on several occasions throughout the review period.

1.1 Location

NMPC has hundreds of "facilities" throughout its system. NMPC and its predecessors have a history of operation that dates back to the 1840s. NMPC provided a list of all facilities within a 50-mile radius of Onondaga Lake (Mailing No. 2, pp. 000031 - 000036) that may have generated, handled, transported, treated, stored or disposed of hazardous substances or wastes. Of these, NMPC identified six sites within the Onondaga Lake watershed that it believes fall within the request for information. Two of these sites, the former Solvay Bridge Street site (Site ID 229) and the Syracuse Fire Training Center (Site ID 230), are discussed in this Site Summary Report. These two sites, in relation to Onondaga Lake, are shown in Figure 1. Site Summary Reports for the NMPC Seventh North Street facility (Site ID 231) and the former NMPC manufactured gas plant sites

(Site IDs 227, 228 and 232) were previously submitted to NYSDEC (TAMS, February 25, 1998 and October 2, 1997, respectively).

The Solvay Bridge Street site is located on Bridge Street in the Town of Geddes, New York. A site plan is provided in Figure 2. This site was formerly operated as the Solvay Transfer Storage and Disposal Facility (TSDF) and Service Center. This site served as both a support facility for electric line crews and housed NMPC's reprocessing equipment used to restore transformer oil to reusable quality. This facility operated from the 1950s until 1994 when the site was officially closed in accordance with applicable RCRA requirements. In December 1997, NYSDEC's RCRA program conducted a "Preliminary Review" of the site and a site visit. NYSDEC determined that sufficient evidence existed to conduct a RCRA Facility Assessment (RFA). A sampling work plan is currently being prepared with field work scheduled to begin in the spring or summer of 1998 (NYSDEC, February 19, 1998).

The Syracuse Fire Training Center was located on State Fair Boulevard in the City of Syracuse, New York. A site plan is provided in Figure 3 as well as the approximate portion of the site which the NYSDEC project manager attributed to former NMPC activities (NYSDEC, February 19, 1997). NMPC entered into an agreement with the City of Syracuse to install fire training props at the city's State Fair Boulevard Fire Training Facility. Construction of the fire training props was completed in 1981. NMPC training activities were conducted at the facility from 1981 through 1984. NMPC decommissioned the fire training props in 1989 (pp. 000009 - 000010).

1.2 Geology

The surficial geology of the Syracuse area was strongly influenced by the most recent glacial advance (Wisconsin age, 12,000 to 14,500 years ago). Syracuse occupies a region

that was covered by Lake Iroquois, a large glacial lake situated in front of the ice margin. The broad flat-lying plains situated from Syracuse north to Lake Ontario were formed beneath Lake Iroquois and are characterized by lacustrine fine sand and silt deposits. Additional glacial features which are common to the region are moraines, drumlins, U-shaped valleys and meltwater channels. The last of these features is important in understanding the geology at the NMPC sites. Onondaga Lake and all its major tributaries lie within glacial meltwater channels. These features originally formed as a conduit to carry meltwater away from the glacier. They typically transmitted large volumes of water at high velocities. Sediment types characteristically found in meltwater channels are sands and gravels. In the Syracuse region, these relict features form important water bearing and transmitting units which lie in an irregularly branching, net-like pattern throughout the area.

The bedrock geology of the greater Syracuse area includes Lower to Middle Paleozoic age sedimentary rocks predominated by carbonate (dolostone and limestone) and shale and containing some sandstone, siltstone and evaporites. Bedrock directly beneath the NMPC sites in Syracuse (as well as underneath Onondaga Lake) is the Silurian Vernon Shale (Rickard and Fischer, 1970) which has low permeability, but does possess secondary porosity due to fractures.

1.3 Hydrogeology

The Solvay Bridge Street site was located on Bridge Street in the Town of Geddes. According to the USGS Syracuse West, NY Quadrangle map, the West Flume flows past the southern portion of the site before connecting with Geddes Brook approximately one mile downstream. Elevations at the site range from approximately 380 ft to 390 ft NGVD. Groundwater data for this site was not included in the NMPC submissions. However, the

USGS map shows marshy areas southeast of the site. Groundwater is expected to be shallow in this area.

The Syracuse Fire Training Center was located on State Fair Boulevard near Harbor Brook. NMPC operated a portion of the site which was owned by the City of Syracuse. A hydrogeologic description of the site was included in the NYSDEC Record of Decision (NYSDEC ROD, 1992). Subsurface conditions at the site were described as urban fill to a depth of 24 ft to 26 ft below grade. Beneath the fill is a low permeability layer of peat, silt and marl. According to the USGS Syracuse West map, the site is relatively flat with elevations ranging from 370 ft to 380 ft NGVD. Depth to groundwater measurements were not included in the NMPC submissions nor in the data furnished by NYSDEC. However, shallow monitoring wells were installed at depths ranging from 16 ft to 21 ft below ground surface (bgs). This would indicate that groundwater depth is probably 10 ft to 15 ft bgs.

1.4 Surface Water Hydrology

As estimated from the USGS Syracuse West Quadrangle, the Solvay Bridge Street site is approximately 100 ft north of the West Flume, which crosses under Bridge Street and flows to the northwest where it connects with Geddes Brook. Geddes Brook is a tributary of Ninemile Creek which flows into Onondaga Lake. The site is approximately 2.7 miles upstream of Onondaga Lake along these creeks. During a December 1997 site visit by NYSDEC's RCRA program group, stormwater drains were observed throughout the site that discharge to the northeast corner of the site. According to NYSDEC (February 19, 1998), "flow from this corner of the site continues north through several hundred feet of culvert pipe and discharges into an open ditch prior to reentering a pipe beneath railroad tracks and onto Crucible Steel property."

The Site Summary Report for Crucible Materials Corporation (TAMS, Site ID 215, December 15, 1997) indicates that surface water flow from the Crucible site enters the storm sewer system and discharges to Tributary 5A of Onondaga Lake. As stated in the TAMS Site Summary Report for Crucible Materials Corporation, Tributary 5A is an artificial waterbody/drainage ditch that was created in the 1940s and 1950s to channel runoff from the AlliedSignal waste beds, the Crucible Steel site and the railroad right-of-way through what was previously the Geddes Marsh into Onondaga Lake (Calocerinos & Spina, 1980). Tributary 5A is shown on Figure 1 herein. Thus, based on NYSDEC's recent observations, the site predominately drains to Tributary 5A and not the West Flume.

Harbor Brook lies just to the south of the Syracuse Fire Training Center. As shown on Figure 3, obtained from NYSDEC's ROD, Harbor Brook appears to be culverted south of the site and east (upstream) of State Fair Boulevard. The creek crosses under State Fair Boulevard and appears to be an open channel downstream of this point. The southwest corner of the Syracuse Fire Training Center is approximately 50 ft north of the culverted portion of Harbor Brook as it passes under State Fair Boulevard (Figure 3). The portion of the site attributable to NMPC, as outlined on Figure 3, is approximately 270 ft north of the culverted section of Harbor Brook. Onondaga Lake is approximately 4,500 ft downstream from the site along Harbor Brook. The site description in the NYSDEC ROD suggests that there is no surface water runoff collection, as the majority of the site is unpaved, with the exception of a few roads. Precipitation is expected to infiltrate into the soils.

2.0 SITE HISTORY

2.1 Owners/Operators

NMPC owns and operates hundreds of sites in the Onondaga Lake drainage basin. Many of these sites are small electric substations and natural gas regulating stations. NMPC identified six sites that it believes fall within the requirements of the 104(e) request for information, two of which are discussed in this report. NMPC did not include a history of the predecessor companies that were merged to form the present-day corporation.

The Solvay Bridge Street site was located on Bridge Street in the Town of Geddes. The facility was in operation from the 1950s until 1988 when NMPC began the process of closing the facility in accordance with RCRA procedures. This location served as a support center for local electric line crews and included a storage facility for transformer oil. NMPC's reprocessing equipment, used to restore transformer oil to reusable quality, was also located at this facility. All generation and storage of hazardous wastes at this facility was terminated prior to 1991. Final closure commenced in 1992, and included removal of the storage tanks, environmental sampling and soil excavation. In 1994, NYSDEC notified NMPC that the facility was considered officially closed in accordance with applicable RCRA standards. In December 1997, NYSDEC's RCRA program conducted a "Preliminary Review" of the site and a site visit and determined that sufficient evidence existed at the Solvay Bridge Street site to conduct a RCRA RFA (NYSDEC, February 19, 1998).

The Syracuse Fire Training Center on State Fair Boulevard was constructed in 1948. It was later expanded to its present size in 1969 (p. 000690). NMPC entered into an agreement with the City of Syracuse in 1978 to install fire training props at this site. The props were installed in 1980 and 1981. NMPC occupied a small portion of the facility and

stored oil at the site in three tanks. Transformer oil from the Seventh North Street TSDF (Site ID 231) was used. NMPC stated in its submission (p. 000015) that only non-PCB oils were used at the Syracuse Fire Training Center. However, when NMPC sampled the drums in 1981 prior to their removal, high concentrations of PCBs were reported for several of the drums on site (p. 000690, refer to Section 4.1 for more details). NMPC used the facility for fire training activities from 1981 through 1984. The props were decommissioned in 1989 by NMPC (pp. 000015-000016). However, it was not indicated in the NMPC submissions whether the fire training props were "cleaned" and left in place or were removed and no longer exist at the site.

In 1992, NYSDEC issued a ROD for the Syracuse Fire Training Center that recommended a combination of soil excavation and capping to remediate the site. The ROD was implemented and the remedial construction was completed in the summer of 1995 (NYSDEC, pers. comm., 1997).

2.2 Site Operations

The Solvay Bridge Street site was in operation from the 1950s until closure procedures were implemented in 1988. The principal waste stream generated at this former TSDF was oil drained from transformers and other electrical equipment. This facility housed NMPC's reprocessing equipment used to restore transformer oil to reusable quality. Prior to 1977, waste oil was reused to the maximum extent possible. Since approximately 1977, waste oil deemed unsuitable for reuse was disposed either by chemical treatment or incineration (p. 000493). Disposal of this waste is discussed in Section 2.3. NMPC began its implementation of procedures responsive to state and federal regulatory program requirements around 1980, and at that time, any electric equipment classified as either PCB or PCB-contaminated equipment was either modified (through the reclassification process) or replaced with non-PCB electrical equipment (pp. 000012 - 000013).

During the early 1980s, NMPC and Galson Research Corporation (Galson) developed and tested a chemical treatment process for the destruction of PCBs. The equipment was housed in a mobile unit which could be transported to various sites for use in the treatment of PCB-contaminated oil and soils. This mobile equipment was based at the Solvay site. NMPC and Galson received a permit from NYSDEC in 1983 to operate the treatment system as a research pilot plant; the permit was later extended to subsequent test demonstrations. In 1986, NMPC and Galson were issued a similar permit by USEPA. NMPC decontaminated the treatment unit in 1989 and received approval from both NYSDEC and USEPA that the unit was considered non-PCB equipment. Waste generated by the mobile PCB treatment unit consisted of decontaminated transformer oil (less than 2 milligrams per liter {mg/L} PCBs) and residual oil contained in the reactor vessel. NMPC did not reuse the decontaminated transformer oil due to residual odors from the treatment process. Oil treated by Galson was disposed off-site at the ENSCO, Inc. facility in Arkansas while the oil treated by NMPC was disposed off-site at the Chemical Waste Management facility in Alabama (p. 000492).

The NMPC fire training area at the Syracuse Fire Training Center was in operation from 1981 to 1984. NMPC designed the fire training props to allow training in dealing with both natural gas and oil fires. To initiate oil fire training using the electrical props, the equipment was filled with water and then a layer of oil was placed on the water. Natural gas was used to ignite the oil and oil was added to maintain the fire during training exercises. Oil used at the training facility was brought in from the Seventh North Street transformer shop and consisted of a non-PCB mineral oil used in electrical equipment. Mineral oil was stored at the site in three storage tanks. NMPC stated that records on the amount of oil used at the facility were not maintained but that periodic testing of the oil in the storage tanks indicated that non-PCB oil was used.

2.3 Generation and Disposal of Wastes

The Solvay Bridge Street site was in operation from the 1950s until 1994, when the site was officially closed. The generation and disposal of hazardous waste at this facility was terminated prior to 1991 when closure procedures were implemented. Operations at this site included storage of transformer oil and reprocessing to restore transformer oil to reusable quality. The principal waste stream generated at this former TSDF was oil drained from transformers and other electrical equipment. NMPC stated that prior to 1977, its normal procedure was to reuse transformer oil to the maximum extent possible. However, when reusable oil exceeded current needs and storage capacity was reached, or when oil was determined to be unsuitable for reuse, some used transformer oil was sold to outside vendors. Since 1977 and the promulgation of state and federal regulations, waste oil deemed unsuitable for reuse was disposed off-site either by chemical treatment or incineration, as appropriate.

Regulated oils, including PCB oil (greater than 500 mg/L) and PCB-contaminated oil (50 mg/L to 500 mg/L), were sent to several facilities across the country for disposal. NMPC stated that they did not have reliable information on how or where waste oil was transported or disposed prior to 1984. Information for the period after the enactment of RCRA (1977), but prior to 1984, is largely unavailable due to NMPC's normal document retention policies (p. 000494). In its submissions, NMPC included internal record keeping documents that list the origin and destination of wastes from January 1984 through December 1993 but did not include actual hazardous waste manifests. For wastes originating at the Solvay facility, it appears that the wastes were either transported out of the basin or, in a few instances, transported to the NMPC Seventh North Street TSDF (Site ID 231, refer to TAMS' Site Summary Report, February 25, 1998). However, a few of the destination codes could not be located in the key so that the actual destination could not be determined (pp. 000310 - 000462). Unregulated non-PCB oil (less than 50 mg/L)

was accepted by ENSCO as a fuel at their El Dorado, Arkansas incinerator. In the late 1980s, unregulated non-PCB oil (less than 25 mg/L) was used as a fuel supplement at NMPC's Oswego Steam Station (p. 000493).

NMPC also operated a mobile PCB treatment unit at the Solvay Bridge Street site in association with Galson Research Corporation. Oil treated by Galson was disposed off-site at the ENSCO, Inc. facility in El Dorado, Arkansas. Oil treated by NMPC was disposed off-site at the Chemical Waste Management facility in Alabama. The unit was in operation from 1983 to 1990 (pp. 000491 - 000493).

NMPC utilized portions of the Syracuse Fire Training Center from 1981 to 1984 for fire training exercises. Oil used at this site originated at the NMPC Seventh North Street TSDF and was a non-PCB mineral oil used in transformers. Oil was used at the site to train personnel in fighting electrical fires. NMPC did not maintain records on the quantities of oil delivered to the site or the amounts used for fire training exercises. The NYSDEC ROD did note that in 1981, at the request of the City of Syracuse Fire Department and the NYSDEC, eighty-five 55-gallon drums of oil were removed from the site by NMPC personnel (p. 000690).

3.0 POTENTIAL PATHWAYS FOR RELEASE OF HAZARDOUS SUBSTANCES TO THE LAKE SYSTEM

3.1 Soil

Soil data for the Solvay Bridge Street site was not included in the NMPC submissions. However, NMPC did state that contaminated soil was excavated and removed during the RCRA site closure activities that were performed in the early 1990s. This site stored transformer oil for electrical equipment and housed the company's transformer oil recycling equipment. NMPC noted several spills involving PCB-contaminated oil at the site during its operational history. This site has a history of soil contamination, although the concentrations and quantities of contaminants were not provided in the NMPC submissions. NMPC has stated that remedial measures were conducted and that NYSDEC has officially listed the site as closed in accordance with applicable RCRA standards (p. 000013).

As stated in Section 1.1 of this report, a RCRA Facility Assessment is currently in progress at the Solvay Bridge Street site. A work plan is currently being prepared with field work expected to commence in the spring or summer of 1998. The sampling program will include soil sampling as one of its components (NYSDEC, 1998).

Surface and subsurface soil sampling was performed at the Syracuse Fire Training Center to characterize the site. Results of the remedial investigation performed at the site were summarized in the NYSDEC ROD. No site-specific soil data was provided by NMPC in their submissions. Urban fill was encountered at the site to a depth of 16 ft to 24 ft bgs. The results of surface and subsurface soil sampling reported exceedances of PCBs, polycyclic aromatic hydrocarbons (PAHs), lead and mercury above the NYSDEC cleanup criteria.

3.2 Surface Water

The Solvay Bridge Street site is approximately 150 ft north of the West Flume, which crosses under Bridge Street and flows to the northwest where it connects with Geddes Brook. Geddes Brook is a tributary of Ninemile Creek which flows into Onondaga Lake. The site is approximately 2.7 miles upstream from Onondaga Lake along these creeks. Also, as indicated in Section 1.4 based on NYSDEC's December 1997 site visit, stormwater from the site is conveyed to the north towards the Crucible plant property which drains to Tributary 5A. It is possible that contaminated soil from this site has impacted surface water and/or sediment in the West Flume and/or Tributary 5A. Analytical data were not provided to assess the potential historic impacts from former operations at this site on off-site surface water and sediment. The Solvay Bridge Street site RFA will include surface water and sediment sampling.

Harbor Brook flows past the southern corner of the Syracuse Fire Training Center (see Figure 3). Onondaga Lake is approximately 4,500 ft downstream from the site. NYSDEC's ROD indicates that surface water samples were collected from Harbor Brook. However, the results of the surface water sampling were not presented in the ROD. The ROD also stated that lead contamination in sediments of Harbor Brook was probably not directly attributable to the site but rather non-point sources from roadways and industry in the area (p. 000692).

3.3 Groundwater

Groundwater data for the Solvay Bridge Street site was not available for review. However, as stated in Section 3.1, soil remediation (excavation) was conducted during final site closure (1988 to 1994). Thus, there was the potential for groundwater contamination. The Solvay Bridge Street RFA will include groundwater sampling.

Two aquifers were encountered at the Syracuse Fire Training Center in the overburden materials. The shallow aquifer is present in the fill material used to reclaim the land on which the Fire Training Center was built. The NYSDEC ROD states that during the 1800s and early 1900s the fire training site was used for salt drying beds. Various areas both on-site and in the vicinity of the site were used for municipal and construction/demolition debris land filling during the early to mid-1900s. The Syracuse Fire Training Center was constructed in 1948 over wetlands filled with materials from unknown sources. The site appears to be within the limits of AlliedSignal's Area I, an area that was designated as a parcel that may have received Solvay waste (Blasland & Bouck, April 1989, p. 3-3). According to Blasland & Bouck (1989), Area I does not appear to have been used for deposition of Allied/Solvay wastes. In 1969, the Syracuse Fire Training Center was expanded to its present size by filling in a wetland area with construction debris from Interstate I-690 (p. 000690).

According to the NYSDEC ROD, chemical analyses of groundwater from the shallow aquifer reported the presence of inorganic contaminants at concentrations above cleanup levels. However, the ROD did not attribute this contamination to on-site activities but rather to the fill material on which the site was built (p. 000692). Beneath the fill material is a low permeability layer of peat, silt and marl. Groundwater samples collected from beneath the low permeability layer did not report the presence of any contaminants above their respective cleanup levels (p. 000692).

3.4 Air

The NMPC service centers, including the Solvay Bridge Street site, included automobile and truck repair. The servicing and operation of these vehicles would produce engine exhaust and hence, air pollution. Another potential source of air pollution would be parts

washing during engine repair. However, the overall contribution of the NMPC vehicle fleet to the urban air pollution in the Syracuse area is most likely not significant.

Transformer oils were burned at the Syracuse Fire Training Center. As there are no records documenting the amounts of oil used at the facility during the 1980s, it is difficult to assess the contribution of this burning to the contaminants that may have reached the lake system. Low temperature combustion of these oils would have produced air pollutants including carbon dioxide, carbon monoxide, nitrous compounds and various acids and possibly other compounds such as PCBs, PAHs and heavy metals. Given that the distance from the site to the lake is approximately 2,500 ft, it is possible that these airborne contaminants could have been deposited directly into the lake and/or entered the lake system via stormwater runoff following deposition to the ground surface.

3.5 County Sewer System

For the Solvay Bridge Street site, NMPC did not provide information on the location of sanitary and storm sewers. During the NYSDEC RCRA site visit in December 1997, several sanitary and storm sewers were identified (see Figure 2). As part of the ongoing RFA, NMPC will identify any other lines not shown on Figure 2. On-site storm sewers direct flow to the northeast corner of the site. This flow continues north through a culvert and eventually connects to the storm sewer system at the Crucible Materials Corporation facility (Site ID 215). Crucible's storm sewer system discharges to Tributary 5A.

Site plans for the Syracuse Fire Training Center on State Fair Boulevard indicate that the few buildings at the site are connected to the municipal sanitary sewer system. Storm sewers are located along State Fair Boulevard, however, portions of the unpaved site most likely rely on infiltration for management of precipitation.

4.0 LIKELIHOOD OF RELEASE OF HAZARDOUS SUBSTANCES TO THE LAKE SYSTEM

4.1 Documented Releases

Historical Releases

NMPC provided details on three spills that occurred at the Solvay Bridge Street site. In December 1984, a leak from a SunOhio tanker occurred involving an estimated 150 gallons of oil. SunOhio was under contract to NMPC at the time for the destruction of PCBs using a patented process at the site. The spill occurred outside the bermed area. Control and containment measures were implemented. The cleanup was performed to the satisfaction of NYSDEC according to NMPC (p. 000014).

The second incident at the Solvay Bridge Street site occurred in April 1986 as a result of operator error during tanker truck unloading. Air was inadvertently applied to the tanker hose which forced air into a tank containing PCB oil. The spill involved approximately three gallons of transformer oil with a PCB content of 1,300 mg/L (ppm). State and federal agencies were notified and the spill was contained. Contaminated stone was placed in drums and metal surfaces were wiped clean with solvent. Final cleanup measures were implemented during the closure of the facility from 1992 through 1994.

The third spill occurred in May 1987 as a result of operator training exercises for the NMPC Mobile PCB Treatment Unit. During unloading of the reactor vessel, a 55-gallon drum was overfilled and approximately five gallons of oil spilled into a bermed and lined area. The oil used during the training exercise was non-PCB (less than 2 mg/L) transformer oil. Cleanup materials were placed in drums for off-site disposal.

NMPC had no records of spills at the Syracuse Fire Training Center site. However, due to the nature of the operations, used transformer oil could have spilled onto the ground during routine fire training as burning oil was extinguished. NMPC stated that there are no records of the amount of oil used at the site during its operation. According to the NYSDEC ROD (1992), a total of 85 drums of oil were removed by NMPC personnel in 1981 at the request of the City of Syracuse Fire Department and NYSDEC. Eight drums contained concentrations of PCBs greater than 1,000 mg/L and thirteen contained concentrations of PCBs between 50 and 500 mg/L. Subsequent soil sampling confirmed the presence of PCBs at the site. Elevated concentrations of lead, mercury and PAHs in soils were also reported.

Ongoing Releases

According to NMPC, NYSDEC concluded that the Solvay Bridge Street site was considered officially closed in accordance with applicable RCRA provisions in 1994. A subsequent investigation determined that no further actions were required to address residual contamination (p. 000013). However, based on another review and site visit in December 1997, the NYSDEC RCRA program determined that a RFA was necessary to determine potential impacts from past operations (NYSDEC, February 19, 1998).

Soil sampling at the Syracuse Fire Training Center site revealed the presence of contamination that was attributed to former practices at the site and to the general nature of the historic urban fill used at the site. In 1992, NYSDEC issued a ROD for the Fire Training Center that recommended a combination of soil excavation and capping. The ROD was implemented and the remedial construction was completed in the summer of 1995 (NYSDEC, pers. comm., 1997).

4.2 Threat of Release to the Lake System

4.2.1 Extent of Site Contamination

Analytical data were not included in the NMPC submission for the Solvay Bridge Street site. NMPC did indicate that contaminated soil was excavated and removed as part of the RCRA facility closure that occurred in the early 1990s. However, the type and amount of contamination was not specified (p. 000013). NYSDEC will conduct a RCRA Facility Assessment in the near future which will include soil, sediment, surface water and groundwater sampling.

Contamination at the former Syracuse Fire Training Center has been delineated. Chemical analyses of groundwater from shallow monitoring wells indicate that the urban fill used to raise the elevation of the site has impacted the shallow aquifer. The ROD concluded that former site activities did not appear to have affected the shallow groundwater. Analytical data from deep monitoring wells indicate that the deeper portion of the aquifer has not been impacted by surficial contamination in the fill or from past site activities (p. 000692).

4.2.2 Migration Potential of Contaminants

The primary contaminants of concern at the Solvay Bridge Street site are PCBs from the transformer oil recycling operations and waste oil from vehicle maintenance. The primary contaminants of concern at the Syracuse Fire Training Center are PCBs, PAHs, mercury and lead in soils. The migration potential of these contaminants is relatively low. The typical transport mechanisms for these types of contaminants are physical, i.e., particle movement by precipitation and/or wind and partitioning to suspended matter or sediment.

The ROD for the Syracuse Fire Training Center states that the lead contamination reported in the shallow aquifer is most likely attributable to the nature of the urban fill in the area and not directly related to the site conditions (p. 000692). Sampling of sediment in Harbor Brook, which crosses under State Fair Boulevard immediately south of the site, indicated the presence of lead in samples collected both adjacent to, and downstream of, the site. The ROD attributed the primary source of lead in Harbor Brook to inputs other than the site. NYSDEC concluded that "the sediments of Harbor Brook show no direct impacts from the fire training center and therefore do not warrant remediation" (p. 000708). However, the ROD did not expressly preclude historic impacts to Harbor Brook that could have been attributable to the site (p. 000692).

The primary goal of the ROD was to prevent surface water runoff from transporting site contaminants off-site from currently impacted areas through a combination of excavation and capping. Areas with high concentrations of contaminants were excavated. Areas of low to moderate contamination were capped with either asphalt or soil to prevent direct contact and to limit the infiltration of precipitation which could transport contaminants to groundwater or surface water.

NYSDEC collected sediment samples in Harbor Brook downstream of the site in 1996. Samples were collected approximately 500 ft and 1,500 ft downstream of the site (locations H-14 and H-13, respectively). PCBs were detected at location H-14 (closer to the site) at concentrations greater than at location H-13. At location H-14, Aroclor-1254 and Aroclor-1260 were detected at concentrations of 200 $\mu\text{g/kg}$ (ppb) and 130 $\mu\text{g/kg}$ (estimated). The ecological Effects Range-Median (ER-M) concentration for total PCBs is 400 $\mu\text{g/kg}$ (NYSDEC, 1993). At location H-13, these Aroclors were detected at estimated concentrations of 53 $\mu\text{g/kg}$ and 40 $\mu\text{g/kg}$, respectively. Lead was detected at locations H-14 and H-13 at concentrations of 145 mg/kg (ppm) and 53.1 mg/kg (estimated), respectively. NYSDEC's sediment criterion for lead, based on a Severe

Effects Level (SEL), is 110 mg/kg. Mercury was detected at both locations at concentrations less than the SEL of 1.3 mg/kg. Select PAHs, including acenaphthene, anthracene, benzo(a)pyrene, chrysene and fluoranthene were detected at both stations at concentrations greater than the ER-M concentrations. Concentrations of these PAHs were generally greater at the station closer to the site (location H-14).

5.0 POTENTIAL FOR ADVERSE IMPACTS TO LAKE SYSTEM DUE TO A RELEASE OR THREAT OF A RELEASE

Analytical data were not provided to evaluate the potential impacts to the lake system from the Solvay Bridge Street site. The West Flume flows under Bridge Street just to the south of the site. Information provided by NMPC reported that during the closure of the site in the early 1990s, contaminated soil was excavated. This site was formerly used for maintenance of transformer equipment containing PCBs. A mobile treatment unit was also located at the site in 1980s. A RFA is currently in progress with sampling anticipated to begin in the spring or summer of 1998. The RFA will include soil, sediment, surface water and groundwater sampling in order to evaluate the potential impacts from historic operations at the site. During the December 1997 site visit, NYSDEC determined that surface water runoff was directed to storm sewer pipes that eventually discharge off-site towards the Crucible Materials Corporation site which discharges to Tributary 5A of Onondaga Lake. Given the nearly 40 years of operational history and the types of waste handled at the facility, the potential for contaminants to have reached the lake system is moderate to high.

Harbor Brook flows past the southern corner of the Syracuse Fire Training Center. A remedial investigation was conducted at the site in 1990 and 1991. The results of the remedial investigation found significant concentrations of PCBs, PAHs, mercury and lead in on-site soils. The individual PAH compounds present at the site were not specified in either the NMPC submissions or in the information provided by NYSDEC. According to NYSDEC's ROD, on-site groundwater samples reported the presence of inorganic contaminants that were attributed to the urban fill used to reclaim the land and not historic activities at the site. Sediment samples collected in Harbor Brook reported elevated concentrations of lead. Upstream samples also contained elevated concentrations of lead. The ROD attributed these elevated concentrations of lead to road drainage and not to

former site activities. However, the ROD did not rule out the possibility that historic activities at the site could have impacted Harbor Brook. The potential for PCBs, PAHs, mercury and lead from the site to have impacted the lake system appears to be moderate to low.

5.1 Hazardous Substance Characteristics

The primary contaminants of concern at the Solvay Bridge Street site were PCBs, other transformer oil components, and waste oil from vehicle maintenance. The primary contaminants of concern at the Syracuse Fire Training Center were PCBs, PAHs, mercury and lead.

Mobility

Semi-volatile organic compounds (SVOCs), especially PAH compounds, have relatively low mobilities. PAHs are formed by the incomplete combustion of fossil fuels and oil. These compounds are usually categorized as dense non-aqueous phase liquids and will migrate down through the soil column and pool at aquitards or bedrock surfaces. Solubilities for PAHs decrease rapidly as the number of benzene rings increases. Naphthalene, with two rings, is relatively soluble (34.4 mg/L), while benzo(a)pyrene, with five rings, is relatively insoluble (0.0038 mg/L). PAHs have high adsorption coefficients and will adsorb onto sediment particles, especially organic matter, so that sediment transport is an important fate process for these compounds. There is some evidence that photooxidation can be an important fate mechanism for PAHs. However, the process may be inhibited by adsorption onto organic matter so that in waters with high suspended matter contents, e.g., eutrophic waters, the relative importance of photooxidation as a fate mechanism is dependent on the environmental conditions (USEPA, 1979).

PCBs generally have limited mobilities in the environment due to low vapor pressures and low water solubilities. Therefore, the primary PCB transport mechanisms from the Solvay Bridge Street site and the Syracuse Fire Training Center to the Onondaga Lake system would have been surface water runoff of PCB-contaminated soil particles into the storm sewers and then into nearby creeks, or direct runoff into nearby creeks. Once in surface water, most PCBs are expected to partition to suspended matter and settle to the sediment layer, with subsequent resuspension during high flows.

Waste oils tend to vary in composition. Generally, they are not very soluble and would have low to moderate mobility in soil and groundwater.

Lead mobility in the environment is governed by a number of environmental conditions such as pH, oxidation state, and water hardness. Elemental lead (metallic lead) may also have been present as a result of the processes which occurred at NMPC facilities. However, natural weathering is ultimately expected to oxidize any elemental lead. Lead mobility in oxidized and elemental form is expected to be controlled by lead-bearing soil particle movement. As a result, site lead, if present, will be associated with soil particles and lead mobility will, in part, be governed by the same processes responsible for soil movement, i.e., surface water flow, particle size and depositional environment.

Mercury mobility is highly dependent on the speciation of the metal. Some of the complex ions are highly soluble while others are very insoluble. Metallic mercury tends to vaporize due to its high vapor pressure. Methylated mercury compounds also have high vapor pressures. In aquatic environments high in chloride, such as Onondaga Lake and parts of the watershed, the solubility of mercury may be greatly increased due to the formation of charged mercuric chloride complexes. Mercury also has a very high adsorption (partition) coefficient such that sediment transport is a primary transport mechanism. Mercury can remobilize after deposition in bottom sediments through

biomethylation where bacteria in the sediments metabolize metallic mercury into methyl mercury compounds. These compounds can be quite mobile in the environment and bioaccumulate in many aquatic organisms (USEPA, 1979).

Toxicity

Polycyclic aromatic hydrocarbons are a class of compounds containing two or more aromatic (benzene) rings. PAHs are formed during the incomplete burning of fossil fuels, garbage or other organic matter. The individual PAH compounds present at the Syracuse Fire Training Center were not documented in the NMPC submissions or in the Statement of Basis, which only listed total PAH concentrations.

Limited data exist for many PAH compounds from which to classify human carcinogenicity. Several PAHs are classified as experimental human carcinogens including benzo(a)anthracene, benzo(b)fluoranthene and dibenz(a,h)anthracene (ATSDR, 1988). Other PAHs are classified as probable human carcinogens including chrysene, benzo(k)fluoranthene and benzo(a)pyrene (IRIS, 1997). Long-term exposure to benzo(a)pyrene in animal studies has resulted in the induction of cancer, by all routes for which humans would normally expect to be exposed (ATSDR, 1988) and is one of the most toxic PAHs, whose effects include non-cancer lung diseases, such as bronchitis, and numerous types of skin lesions.

Because waste oil can contain various mineral oils, hydrocarbons and chlorinated hydrocarbons that are known carcinogens, the Material Safety Data Sheet classifies waste oil as a carcinogen.

PCBs have been shown to cause many toxicological responses including carcinogenic, reproductive, teratogenic, neurologic/developmental, systemic and immunological effects.

PCBs are classified as probable human carcinogens, based on hepatocellular carcinomas in rodent studies and inadequate yet suggestive evidence of excess risk of liver cancer in humans by ingestion, inhalation or dermal contact (IRIS, 1996). Studies have demonstrated that endpoints resulting from exposure to PCBs have shifted with time, differ among species, and are dependent on dose and exposure duration. The toxicity of PCBs to aquatic and terrestrial organisms varies according to congener and Aroclor composition, where, in general, the toxicity increases with increasing degree of chlorination, except for some highly-chlorinated congeners which may be physically hindered from accumulating in tissues.

Lead may adversely affect survival, growth, reproduction, development, and metabolism of most species under controlled conditions, but its effects are substantially modified by physical, chemical and biological variables (Eisler, 1988). In general, organo-lead compounds are more toxic than inorganic lead compounds, food chain biomagnification of lead is negligible, and immature organisms are most susceptible to toxicity. Lead is classified as a probable human carcinogen, based on rat and mouse studies with dietary and subcutaneous exposure to several soluble lead salts (USEPA, 1995). In humans, ingestion of lead leads to symptoms such as loss of appetite, anemia, malaise, insomnia, headaches, irritability, muscle and joint pains, tremors, hallucination and distorted perceptions, muscle weakness, gastritis and liver changes. Lead is also toxic to all phyla of aquatic biota, but its toxic action is modified by species and physiological state. Wong et al. (1978) reported that only soluble waterborne lead is toxic to aquatic biota, and that free cationic forms are more toxic than complexed forms.

Mercury, in both organic and inorganic forms, is toxic to both humans and animals (ATSDR, 1989). The organic forms of mercury such as methyl mercuric chloride are usually considered more toxic than the inorganic forms such as mercuric chloride. Long-term exposure to either form of mercury can damage the brain, kidneys, and developing

fetuses. Elemental mercury is not classified as to carcinogenicity while methyl mercury and mercury chloride are classified as possible human carcinogens (IRIS, 1997). The primary route of exposure for the general population is the ingestion of methyl mercury in contaminated foodstuffs, especially fish.

Persistence

SVOCs, and particularly the longer-ringed PAHs, are relatively persistent in the environment. The dissolved fraction of SVOCs can undergo rapid photolysis in surface waters. However, the strong adsorption characteristics tend to inhibit photolysis. In groundwater, SVOCs are persistent.

PCBs are persistent in the environment due to their high stability and relative inertness. In aquatic systems, low amounts of PCBs are found dissolved in the water column due to their low solubility and preferential partitioning to suspended matter and sediment. In these systems, PCB transport and persistence are generally governed by particle transport processes. PCBs have been shown to degrade to a limited extent via dechlorination.

The higher molecular weight components of waste oils are relatively persistent, have low water solubilities and will not easily volatilize when exposed to air. Consequently, the heavier compounds will remain on soil. In the water column, these heavier compounds will adsorb to suspended matter and settle to the sediment and will likely biodegrade (ATSDR, 1993).

Lead is very persistent in both water and sediment. Since lead is an element, it cannot be broken down at all and its concentration in environmental media is governed solely by dilution mechanisms. In the environment, lead can be transformed from inorganic to

organic forms, affecting its toxicity, but ultimately only dilution or removal affect the presence of this element.

Mercury is very persistent in the environment. Since mercury is an element, it cannot be broken down at all and its concentration in environmental media is governed solely by dilution mechanisms. Because of its strong adsorption characteristics, mercury primarily concentrates in bottom sediments. Mercury can also enter the biologic environment as bacteria metabolize metallic mercury to methyl mercury. Once in the biologic cycle, methyl mercury is very persistent (USEPA, 1979).

Bioaccumulation

Aquatic organisms are able to bioaccumulate some hydrocarbons over a short period of time, but depuration will occur after the source/spill has ceased (ATSDR, 1993).

PAHs have shown rapid uptake rates in aquatic organisms from zooplankton to fish. PAHs with two to four rings are readily metabolized and excreted by organisms. The five-ringed PAHs are also readily bioaccumulated in organisms but the rate of metabolism is much slower (USEPA, 1979).

PCBs are very lipophilic and thus tend to bioaccumulate/bioconcentrate within living organisms. The more PCBs that are absorbed and remain in the organism, the greater the potential for toxic responses.

Lead tends to bioaccumulate/bioconcentrate within living organisms. However, there is no convincing evidence that it is biomagnified through food chains (Wong et al., 1978; USEPA, 1979; Settle and Patterson, 1980). In surface water, lead concentrations are usually highest in benthic organisms and algae and lowest in upper trophic level predators.

Methyl mercury is the most readily accumulated and retained form of mercury in aquatic biota. Bioconcentration factors can be high for many biota. The depurative half-life of methyl mercury in aquatic organisms has been estimated between one and three years (USEPA, 1979).

5.2 Quantity of Substance

Analytical data for the Solvay Bridge Street site were not included in the NMPC submissions. NMPC did indicate that during the closure of this site in the early 1990s, soil was excavated and removed as part of the cleanup effort (p. 000013). However, no data was provided to evaluate the quantity of contaminants in the soil prior to excavation or the cleanup levels established for the site to determine the potential concentrations of contaminants left behind.

The Syracuse Fire Training Center remediation was completed in 1995. Specific sampling results for this site were not included in the NMPC submissions. Figure 3 (taken from the NYSDEC ROD) shows contaminant levels prior to excavation. The site was divided into small parcels for purposes of categorizing the contamination. Parcels were grouped according to contamination level, as follows:

- Contamination Level 4 - Soils were contaminated with PCBs and/or mercury. Soils from these areas were to be excavated and disposed at a licensed hazardous waste facility;
- Contamination Level 3 - Soils were contaminated with lead and/or PAHs. Soils excavated from these areas were to be disposed on-site in areas scheduled to be paved;

- Contamination Level 2 - Soils were contaminated with lead and/or PAHs. All Level 2 areas were to be paved. Any soils excavated from Level 2 areas were to be disposed on-site in areas scheduled for paving;
- Contamination Level 1 - Soils in Level 1 were not sampled during the remedial investigation. Any soils excavated from Level 1 areas were to be disposed on-site in areas scheduled for paving; and
- Contamination Level 0 - Contaminant concentrations in Level 0 areas were below the project action levels.

The volume of soil for each category was not included in the ROD. Consequently, the mass of soil contaminants excavated cannot be approximated. Similarly, the amount of contaminants left on-site under the asphalt cap and/or soil cover cannot be estimated.

5.3 Levels of Contaminants

No analytical data were provided for the Solvay Bridge Street site in the NMPC submissions. However, a NYSDEC RFA is currently in progress which will include sampling of soil, sediment, surface water and groundwater at the site to determine the potential impacts from historic operations at the site. Sampling is anticipated to commence in the spring or summer of 1998.

As shown in Figure 3, a major portion of on-site soils at the Syracuse Fire Training Center contained PCBs (2 to 930 mg/kg), lead (4 to 4,700 mg/kg), mercury (1 to 23 mg/kg) and PAHs (1 to 1,900 mg/kg). The Syracuse Fire Training Center ROD (p. 000696) stipulated several action levels for the contaminants of concern, including:

- Excavation and removal (off-site disposal) of PCB contamination in surface soils (less than one foot bgs) at concentrations above 2 mg/kg and in subsurface soils (greater than one foot bgs) above 10 mg/kg;
- Excavation and removal (off-site disposal) of mercury contamination in soils at concentrations greater than 20 mg/kg;
- An engineered asphalt cover for lead contaminated soils with concentrations greater than 500 mg/kg and PAH contaminated soils with concentrations greater than 40 mg/kg including mercury contaminated soils with concentrations between 1 and 20 mg/kg; and
- Surface soils with PCB concentrations between 1 and 2 mg/kg were covered with either the asphalt cap or a 6-inch topsoil barrier.

These action levels represent the potential levels of contaminants that remain in the soils at the Syracuse Fire Training Center.

5.4 Impacts on Special Status Areas

The West Flume, which is adjacent to the Solvay Bridge Street site, is not classified in 6 NYCRR Part 895. However, Geddes Brook and Ninemile Creek, downstream of the confluence with West Flume, are Class C streams. During the site visit in December 1997, NYSDEC found that surface water runoff from the Solvay Bridge Street site is directed to storm sewers that connect to a local system which eventually discharges into Tributary 5A. Tributary 5A is also not currently classified in 6 NYCRR Part 895. According to NYSDEC, Tributary 5A is no longer a classified water body and its intended best use is "industrial drainage" (TAMS, December 15, 1997). The New York State freshwater wetland area closest to the Solvay Bridge Street site is located approximately 2,000 ft northwest (downstream) of the site along the West Flume and is designated SYW14. The nearest federal wetland area is located approximately 1,000 ft northeast of

the site and is classified as Palustrine, Emergent (PEM1E). There are three other federal wetland areas approximately 3,000 ft northeast of the site each designated as POWK (Palustrine, Open Water, Artificial). These federal wetlands are the Semet Residue Ponds, which are located on the opposite side of Tributary 5A. The shoreline of Onondaga Lake is a federal wetland designated L2OWH. It is possible that contamination from the Solvay Bridge Street site could have reached this wetland via Tributary 5A. There are no other state or federal wetlands in the immediate vicinity of the site. As of August 1996, there were no New York State Natural Heritage Sensitive Elements known in the immediate vicinity of the Solvay Bridge Street site.

Harbor Brook, which is adjacent to the Syracuse Fire Training Center, is a Class C stream near the site (6 NYCRR Part 895). A New York State freshwater wetland area along the shoreline of Onondaga Lake near the mouth of Harbor Brook, designated SYW19, is approximately one mile downstream of the site. This state wetland is also a federal wetland classified as Palustrine, Emergent (PEM1C). The potential for contaminants to have impacted this wetland is moderate to low. The NYSDEC ROD found that contamination in Harbor Brook was due to roadway runoff and general industry in the area, however, historic impacts from the site were not ruled out (p. 000692). As of August 1996, there were no New York State Natural Heritage Sensitive Elements known in the immediate vicinity of the Solvay Bridge Street site.

6.0 SUMMARY OF CONCERNS

There is very little data and information in the NMPC responses to characterize the contamination at the Solvay Bridge Street site. However, a NYSDEC RCRA Facility Assessment is currently in progress which will include sampling of environmental media. Given that this site was in operation from the 1950s to the late 1980s and housed NMPC's used transformer oil reprocessing equipment, the potential for PCBs to have been released to soil and groundwater at the site is high. Surface water runoff at the site is directed to a storm sewer system that flows off-site to the Crucible Materials Corporation site. Runoff from the Crucible site discharges into Tributary 5A of Onondaga Lake. This system provides a mechanism for the transport of PCBs and waste oils from the site to the lake system.

The Syracuse Fire Training Center was remediated in 1995 to the satisfaction of NYSDEC. Given the short duration of NMPC's involvement at this site (four years of active use and five years of inactive use), the historic off-site migration potential of contaminants originating from NMPC operations at this site appears to be low. The contaminants found in on-site soil, including PCBs, lead, mercury and PAHs, are not particularly mobile. The primary method of migration for these contaminants would be particle movement via runoff and subsequent sediment transport in Harbor Brook. According to the NYSDEC ROD, sampling conducted in Harbor Brook did not indicate that contaminants were migrating off-site during the site investigation.

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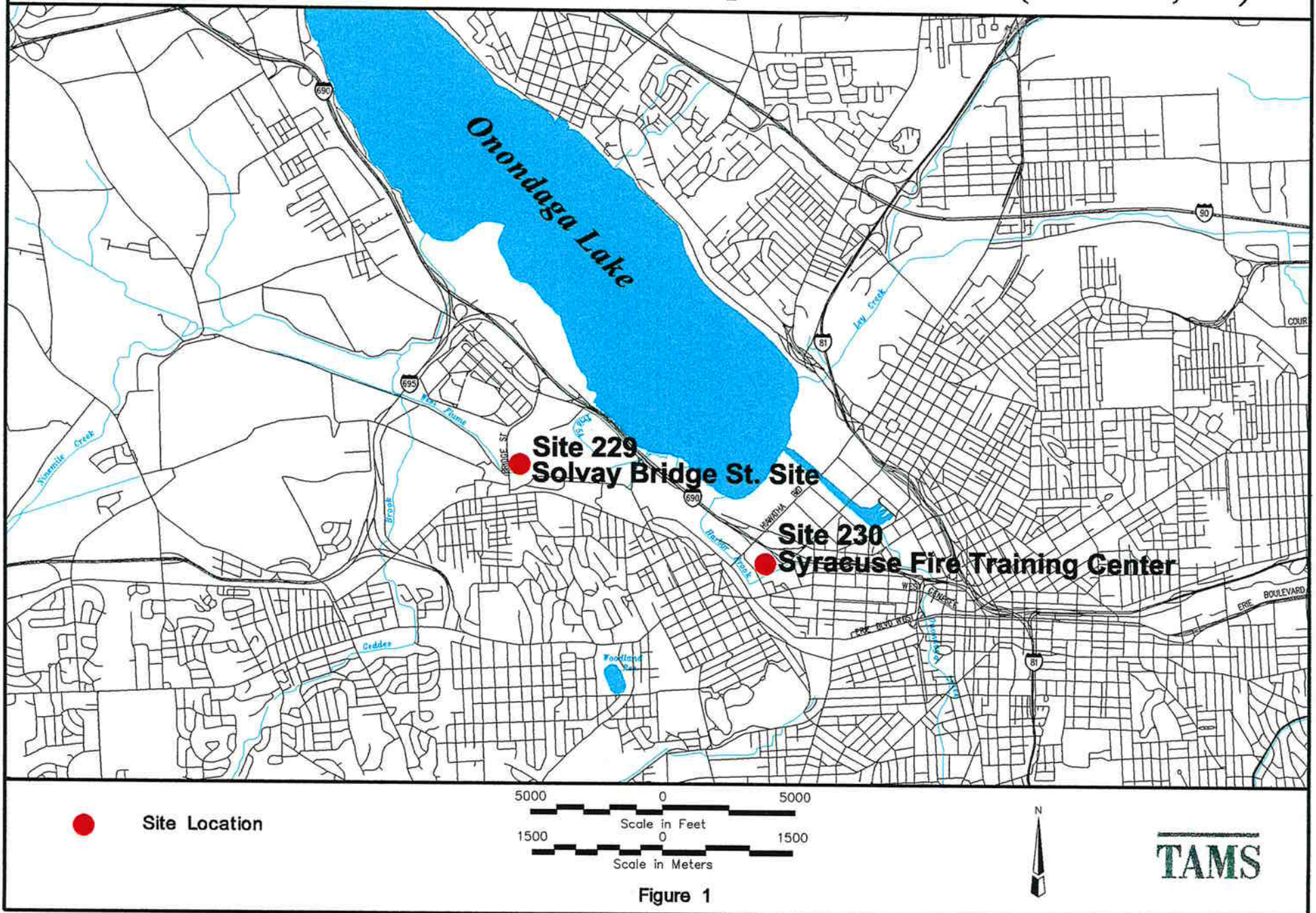
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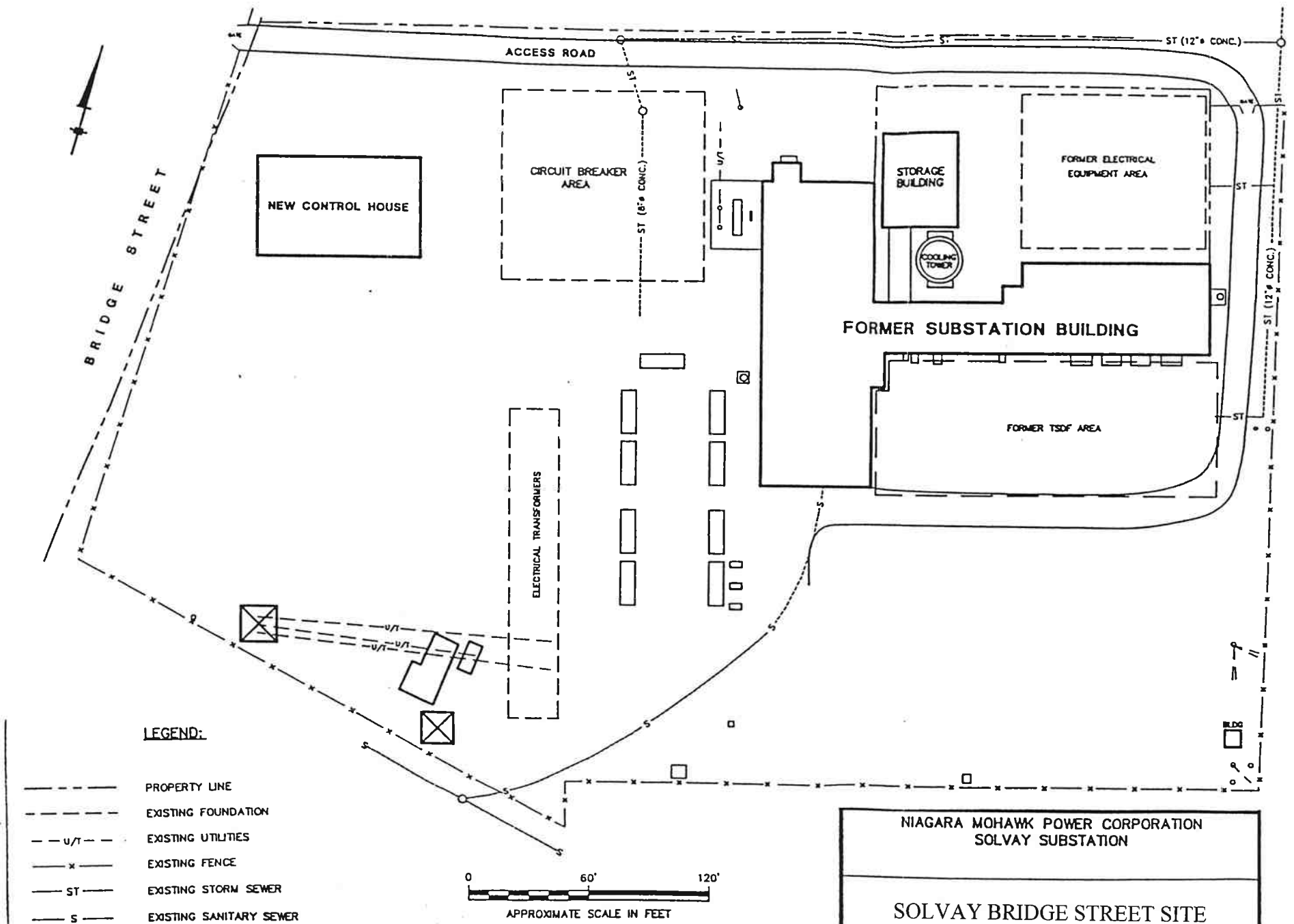
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Site Location: Niagara Mohawk Power Corporation Facilities (Sites 229,230)





Source: Map provided by NYSDEC, February 19, 1998.

NOTES:

SITE PLAN BASED ON TOPOGRAPHIC MAP OF THE SOLVAY SUBSTATION LOT; SEPTEMBER 28, 1927

NIAGARA MOHAWK POWER CORPORATION
SOLVAY SUBSTATION

SOLVAY BRIDGE STREET SITE

BBL

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE

2

NOTES - SOIL CONTAMINATION LEVELS

CONTAMINATION LEVEL 4 - SOILS IN LEVEL 4 AREAS ARE CONTAMINATED WITH POLYCHLORINATED BIPHENYLS (PCB) AND/OR MERCURY (Hg). SOILS EXCAVATED FROM THESE AREAS SHALL BE DISPOSED OF IN A FACILITY LICENSED BY THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA) TO ACCEPT HAZARDOUS MATERIALS CONTAMINATED TO THE LEVELS INDICATED BELOW OR GREATER. DEPTHS OF EXCAVATION IN LEVEL 4 AREAS WILL BE DETERMINED BY THE ENGINEER FROM COMPARISON OF SAMPLED SOIL (DURING CONSTRUCTION) ANALYTICAL TEST RESULTS TO CONTAMINANT ACTION LEVELS.

KNOWN PCB CONCENTRATIONS - 2 mg/kg to 930 mg/kg
KNOWN Hg CONCENTRATIONS - 1 mg/kg to 23 mg/kg

CONTAMINATION LEVEL 3 - SOILS IN LEVEL 3 AREAS ARE CONTAMINATED WITH LEAD (Pb) AND/OR POLYNUCLEAR AROMATIC HYDROCARBONS (PAH). SOILS EXCAVATED FROM LEVEL 3 AREAS SHALL BE PLACED IN AREAS ON-SITE THAT ARE SCHEDULED TO BE COVERED WITH PAVEMENT UNDER THIS CONTRACT. DEPTHS OF EXCAVATION IN LEVEL 3 AREAS WILL BE DETERMINED BY THE ENGINEER FROM COMPARISON OF SAMPLED SOIL (DURING CONSTRUCTION) ANALYTICAL TEST RESULTS TO CONTAMINANT ACTION LEVELS.

KNOWN Pb CONCENTRATIONS - 4 mg/kg to 1000 mg/kg
KNOWN PAH CONCENTRATIONS - 1 mg/kg to 1900 mg/kg

CONTAMINATION LEVEL 2 - SOILS IN LEVEL 2 AREAS ARE CONTAMINATED WITH Pb AND/OR PAH. SOILS EXCAVATED FROM LEVEL 2 AREAS FOR ANY REASON SHALL BE DISPOSED OF IN ON-SITE AREAS SCHEDULED TO BE COVERED WITH PAVEMENT UNDER THIS CONTRACT. OTHERWISE, LEVEL 2 AREAS ARE SCHEDULED FOR PAVING UNDER THIS CONTRACT.

KNOWN Pb CONCENTRATIONS - 4 mg/kg to 4700 mg/kg
KNOWN PAH CONCENTRATIONS - 2 mg/kg to 1900 mg/kg

CONTAMINATION LEVEL 1 - SOILS IN LEVEL 1 AREAS WERE NOT SAMPLED OR ANALYZED FOR CONTAMINANTS DURING THE REMEDIAL INVESTIGATION PHASE OF THIS PROJECT. CONTAMINANT LEVELS, IF ANY, ARE UNDETERMINED. SOILS EXCAVATED FROM LEVEL 1 AREAS FOR ANY REASON SHALL BE DISPOSED OF IN ON-SITE AREAS SCHEDULED TO BE COVERED WITH PAVEMENT UNDER THIS CONTRACT.

CONTAMINATION LEVEL 0 - SOILS IN LEVEL 0 AREAS WERE SAMPLED AND ANALYZED FOR CONTAMINANTS DURING THE REMEDIAL INVESTIGATION PHASE OF THIS PROJECT. CONTAMINANT CONCENTRATIONS IN LEVEL 0 AREAS ARE LESS THAN PROJECT ACTION LEVELS.

PROJECT ACTION LEVELS

| CONTAMINANT | CONCENTRATION |
|----------------------------|---------------|
| PCB (SURFACE TO 12" DEPTH) | 2 mg/kg |
| PCB (12" TO 24" DEPTH) | 10 mg/kg |
| Hg | 20 mg/kg |
| Pb | 500 mg/kg |
| PAH | 40 mg/kg |

FIGURE 3 SYRACUSE FIRE TRAINING CENTER

Source:

NYSDEC Files

Record of Decision, December 1992

